

REMARKS

Agent for Applicant respectfully submits original claims 4 and 5; previously presented claims 1, 3, 6-9, 19-20 and 29-34; currently amended claims 18 and 28; and cancelled claims 2, 10-17, 21-27 and 35 for consideration by the Examiner.

35 U.S.C. 112, Claims Not Supported by the Specification

Claims 28-35

The Examiner rejected claims 28-35 as failing to comply with the written description requirement. Specifically the Examiner stated that the claim(s) contain subject matter, namely “wherein the power means constantly power said sensor means and said microprocessor means”, that was not described in the specification.

Agent for Applicant traverses the Examiner’s objection. In accordance with Agent for Applicant’s communication of December 15, 2008, the claimed subject matter is supported in FIGS. 5 and 6, paragraphs 42-49, and claims 29-35 of the specification as filed.

Nevertheless, Agent for Applicant has removed the objected phrase from the claims as herein presented.

Agent for Applicant respectfully submits that claims 28-35 are now in compliance with 35 U.S.C. 112.

35 U.S.C. 103, Obviousness

Rabizadeh in view of Huang

The Examiner stated that claims 1, 3, 4, 7, 28-31, 34 and 35 are unpatentable over Rabizadeh (5,606,123) in view of Huang (5,889,464).

Agent for Applicant respectfully submits that the claims as presently entered are patentable over Rabizadeh in view of Huang.

Claim 1 now reads:

1. A digital pressure display comprising:
 - (a) *sensor means for intermittently sensing said pressure*;
 - (b) *microprocessor means to intermittently enable the operation of said sensor means to sense said pressure at predetermined sampling intervals and generate a signal*; and
 - (c) *power means to power said sensor means and said microprocessor means for generating a digital pressure reading*;
wherein the sensor means *sensing said pressure at predetermined sampling intervals reduce power requirements*.

[emphasis added].

The Examiner was of the opinion that Huang discloses a tire pressure indicator which teaches the use of a microprocessor (61) means to intermittently enable the operation of the sensor means to sense the pressure at predetermined sampling intervals (col. 6, lines 4-13). Huang reads, at relevant part:

The voltage regulator 60 is adapted to be connected to the power source (not shown) of the vehicle, and provides an operating voltage to the control circuit 61 and the indicating unit 62. A light emitting diode 600 is connected to the voltage regulator 60 and is operable so as to emit light when power is supplied to the controller 6. The control circuit 61, such as a microprocessor, is connected to the *receiver circuits 5* and *processes* the digital pulse signals therefrom to obtain the pressure values of the air in the pneumatic tires (B) (see FIG. 1).

[emphasis added]

Referring to FIG. 1 of Huang, it is clear that the controller 6 processes signals received from the *receiver circuits 5* and not the sensors 1. The sensors 1, to the extent that Huang discloses their operation, are continuously active and the pressure values are continuously transmitted from the wheels of the vehicle to the receiver circuits 5.

Furthermore, the controller 6 does not *enable the operation* of the receiver circuits 5, as claimed in the present application. Instead, the controller 6 merely *processes* the signals received from the receiver circuits 5. Thus there is no attempt in Huang to use the controller to reduce power consumption of the pressure gauge, which is an object of the present application. See, for example, para. 44 of the present application:

The controller 54 controls the sampler 50, which then samples the pressure at predetermined time intervals... This greatly reduces the power consumption of the system.

and at para. 46:

The micro controller controls the time interval at which the vacuum pressure is monitored and sampled and read. *The reason for sampling at intervals rather than continuously is to extend the life of the power supply such as the battery or the like.*

[emphasis added]

Huang also reads, at col. 4, lines 40-44:

The processor 340 detects the oscillating frequency output of the oscillator 341, and converts the same into a corresponding pressure value. The processor 340 then controls the signal transmitter circuit 40 to transmit a pressure signal that corresponds to the pressure value wirelessly.

Thus it is clear that Huang does not in fact disclose a tire pressure indicator which teaches the use of a microprocessor means to intermittently enable the operation of the sensor means to sense the pressure at predetermined sampling intervals.

In summary, Huang does not disclose (a) sensor means for intermittently sensing said pressure, as Huang discloses continuously sensing, transmitting and receiving said pressure; (b) microprocessor means to intermittently enable the operation of said sensor means, as Huang discloses a controller that intermittently processes received signals but does not intermittently enable the receiver or sensors; and (c) sensing said pressure at predetermined sampling intervals reduce power requirements, as Huang does not teach any technique to reduce power consumption by the activating the sensors intermittently or any other means.

Similarly, Rabizadeh does not disclose all of these limitations.

At paragraph 9 of the Examiner's Office Action dated August 14, 2008, the Examiner stated:

The microprocessor of Rabizadeh scans the software program at a certain rate (for example, 1 millisecond) to review all of the instructions which are supposed to occur. When the scan of the program is performed and the time comes to perform an operation in regards to the sensor, the microprocessor at that time (a certain millisecond in the timeline of performing operations) enables the sensor to function as required by the program, therefore the microprocessor has intermittently enabled the sensor to sense a pressure. This method of scanning the program reduces the power requirements. Regarding the argument that Rabizadeh fails to provide any specific signaling control to the sensor is not persuasive. As disclosed in column 6, lines 11-16, "the pressure sensor

124 communicates with a microprocessor based interface circuit 146 which in turn supplies pressure data to a driver 148 for the display 128...”.

Agent for Applicant notes that the above description is in relation to FIG. 11 of Rabizadeh (see col. 6, line 11). As can be clearly seen in FIG. 11, which is reproduced below, the pressure sensor 124 is operable to transmit pressure data to the interface circuit 146 (see arrow between pressure sensor 124 and A/D converter), but it is *not contemplated* that the microprocessor or any other part of interface circuit 146 *communicates back* to pressure sensor 124 to intermittently enable pressure sensor 124. In other words, FIG. 11 only illustrates a one-way communication from the pressure sensor 124 to the interface circuit 146 and there is no indication in Rabizadeh (with respect to FIG. 11 or any other embodiment) that bidirectional communication is contemplated. Thus Agent for Applicant respectfully submits that Rabizadeh does not disclose the microprocessor intermittently enabling operation of the sensor.

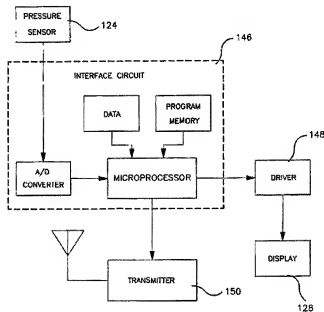


FIG. 11

The Examiner also stated at paragraph 9:

The argument that Rabizadeh does not state that the sensing unit is intermittently enabled, is not persuasive. As disclosed in column 6, lines 34-48, “the circuitry is powered by power supply 172 which is of... the inertial type which generates power from the movement of the wheel. ... Sensor 124’ electrically communicates with the circuitry

170...". Therefore the movement of the wheel acts to provide power to the pressure sensor 124 when the wheel moves, when the wheel stops no power would be supplied.

Agent for Applicant respectfully submits that the above description does not disclose the microprocessor intermittently enabling operation of the sensor, as claimed in the present application. Firstly, Rabizadeh discloses that the "Circuitry 170 is powered by the power supply 172 which is of the ... inertial type..." and that "sensor 124' electrically communicates with the circuitry 170...". Thus, while the power supply 172 may intermittently enable the circuitry 170 including microprocessor, Rabizadeh has not disclosed any functional link between the power supply 172 and the sensor 124' that would actually intermittently enable the sensor 124'.

Secondly, even if one could infer that the power supply 172 does intermittently enable sensor 124', this would mean that it is the power supply 172 itself, and not the microprocessor, that intermittently enables sensor 124'. Thus Agent for Applicant respectfully submits that Rabizadeh does not disclose the microprocessor intermittently enabling the operation of the sensor, as claimed in the present application.

In the present application, the sensor means intermittently senses the pressure. The present application teaches the use of a microprocessor means to intermittently *enable* the operation of *the sensor means to sense* the pressure *at predetermined sampling intervals*.

Agent for Applicant notes that independent claims 18 and 28 include similar limitations to claim 1. The remaining rejected claims are dependent on the aforementioned independent claims.

Agent for Applicant therefore respectfully submits that the claims as presently entered are patentable over Rabizadeh in view of Huang.

Rabizadeh and Huang in view of Salmond

The Examiner stated that claims 5, 6, 32 and 33 are unpatentable over Rabizadeh and Huang in view of Salmond (5,032,287).

Agent for Applicant respectfully submits that Salmond also does not disclose a tire pressure indicator which teaches the use of a microprocessor means to intermittently enable the operation of the sensor means to sense the pressure at predetermined sampling intervals.

Agent for Applicant therefore respectfully submits that the claims as presently entered are patentable over Rabizadeh and Huang in view of Salmond.

Saito and Huang in view of Rabizadeh

The Examiner stated that claims 8, 9 and 18 are unpatentable over Saito et al. (6,171,104) and Huang in view of Rabizadeh.

Agent for Applicant respectfully submits that Saito also does not disclose a tire pressure indicator which teaches the use of a microprocessor means to intermittently enable the operation of the sensor means to sense the pressure at predetermined sampling intervals.

Agent for Applicant therefore respectfully submits that the claims as presently entered are patentable over Saito and Huang in view of Rabizadeh.

Saito, Huang and Rabizadeh in view of Gauthier

The Examiner stated that claims 19 and 20 are unpatentable over Saito, Huang and Rabizadeh in view of Gauthier (6,007,330).

Agent for Applicant respectfully submits that Gauthier also does not disclose a tire pressure indicator which teaches the use of a microprocessor means to intermittently enable the operation of the sensor means to sense the pressure at predetermined sampling intervals.

Agent for Applicant therefore respectfully submits that the claims as presently entered are patentable over Saito, Huang and Rabizadeh in view of Gauthier.

37 CFR 1.75, Double Patenting

The Examiner stated that should claim 34 be found allowable, claim 35 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof.

Agent for Applicant has cancelled claim 35 and therefore respectfully submits that the claims are in compliance with 37 CFR 1.75.

CONCLUSIONS

Agent for Applicant respectfully submits that the application is now in condition for immediate allowance and respectfully solicits same.

Yours respectfully,



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